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untreated portions of the same rows yielded a grand total of 2,771 potatoes, weighing 274 pounds 4 ounces, of which 948 were of marketable size and weighed 180 pounds 1 ounce. There was consequently a grand total increase in favor of the treated hills of 46 pounds 3 ounces total product, and 64 pounds 1 ounce marketable product.

(7) This 64 pounds 1 ounce increase in marketable product was obtained from 250 feet of row (20 times 12½). This represents an increase of 4.1 ounces to the foot. As there are 14,560 feet of row in an acre of potatoes as ordinarily planted, an increase of 4.1 ounces to the foot amounts to 59,696 ounces, or 3,731 pounds to the acre. Reducing this to bushels by dividing by 60 (the number of pounds to the bushel) we get an increase from the treatment of 62.2 bushels to the acre.

(8) There was in nearly every case a marked difference in the amount of scab on the treated and untreated tubers, the former being much more free from the disease.

#### CONCLUSIONS.

So far as a single experiment can be relied upon, the results here reported seem to indicate the correctness of the following provisional conclusions:

(1) That a large proportion of the injury done by the potato rot can be prevented by spraying the vines with the Bordeaux mixture.

(2) That this treatment apparently diminishes the amount of scab affecting the tubers.

(3) That by adding London purple to the mixture, the same treatment may be made effective in preventing the injuries of both the rot and Colorado Potato Beetle.

### NEW EXSICCATI.

By D. G. FAIRCHILD.

#### I. PARASITIC FUNGI OF CULTIVATED PLANTS.

The second fascicle of Messrs. Briosi & Cavara's Parasitic Fungi of Cultivated Plants\* has been received. The fascicle contains many interesting things, the following of which are of special importance to this country:

PHYTOPHTHORA INFESTANS, (Mont.) DBy., on *Solanum lycopersicum*.

PLASMOPARA VITICOLA, B. & C., on *Vitis vinifera*.

UROMYCES TRIFOLII, Wint., on *Trifolium pratense*.

PUCCINIA GRAMINIS, Pers., (I), on *Berberis vulgaris*.

CERCOSPORA ROSECOLA, Pass., on *Rosa*, (cult.).

CONIOTHYRIUM DIPLODIELLA, (Speg.) Sacc., on *Vitis vinifera*.

COLLETOTRICHIUM LINDEMUTHIANUM, (S. & M.) B. & Cav., on *Phaseolus vulgaris*.

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\* Funghi Parassiti Delle Piante Coltivate od Utili.

It will be seen that the following well-known diseases are represented : The downy mildew of the tomato and grape, the rust of clover and grass, leaf blight of the rose, white-rot of the grape, and anthracnose of the bean. The latter disease, as well as some of the others, have been quite fully illustrated and described in the reports of this Section. It is to be regretted that the descriptive part of this work is Italian ; notwithstanding this, however, it seems to us that it would prove a valuable acquisition to the collection of every experiment station.

## II. KELLERMAN &amp; SWINGLE'S KANSAS FUNGI.

The second neatly prepared fascicle of the fungi of Kansas has lately appeared. The list of species and host plants is as follows :

ÆCIDIUM CALLIRRHŒS, E. & K., on *Callirrhœ involucrata*.  
 ÆCIDIUM GROSSULARIÆ, Schum., *Ribes aureum*.  
 ÆCIDIUM PENTSTEMONIS, Schw., *Pentstemon grandiflorus*.  
 ÆCIDIUM PUSTULATUM, Curt., *Comandra umbellata*.  
 ÆCIDIUM TUBERCULATUM, E. & K., *Callirrhœ involucrata*.  
 CÆOMA NITENS, Schw., *Rubus villosus*.  
 CERCOSPORA ALTHÆINA, Sacc., *Althæa rosea*.  
 CERCOSPORA DIANTHERÆ, E. & K., *Dianthera Americana*.  
 CERCOSPORA JUGLANDIS, Kell. & Sw., *Juglans nigra*.  
 CERCOSPORA POLYTÆNIÆ, E. & K., *Polytænia Nuttallii*.  
 CERCOSPORA TUBEROSA, E. & K., *Apios tuberosa*.  
 DENDRYPHIUM SUBSESSILE, E. & E., *Smilax hispida*.  
 ENTYLOMA PHYSALIDIS, (Klachbr. & Cke.) Wint., (a) *Physalis lanceolata*;  
 (b) *Physalis pubescens*.  
 FUSICLADIUM EFFUSUM, Wint., *Carya amara*.  
 GLÆOSPORIUM NERVESEQUUM, (Fekl.) Sacc., *Platanus occidentalis*.  
 PERONOSPORA ANDROSACES, Niessl., *Androsace occidentalis*.  
 PHYLLOSTICTA IPOMÆÆ, E. & K., *Ipomœa pandurata*.  
 PUCCINIA NIGRESCENS, Peck., (a) *Salvia lanceolata*; (b) *Salvia azurea*, var.  
*grandiflora*.  
 PUCCINIA SCHEDONNARDI, Kell. & Sw., *Schedonnardus Texanus*.  
 PUCCINIA SILPHII, Schw., *Silphium integrifolium*.  
 RAMULARIA URTICÆ, Ces., *Urtica gracilis*.  
 SEPTORIA TENELLA, Cke. & Ell., *Festuca tenella*.  
 UROMYCES GRAMINICOLA, Burfill, *Panicum virgatum*.  
 UROMYCES HYALINUS, Peck., *Sophora sericea*.  
 UROMYCES POLYGONI, (Pers.) Fekl., (a) *Polygonum aviculare*; (b) *Polygonum ramosissimum*; leaves (c) *Polygonum ramosissimum*, stems.

### III. SYDOW'S UREDINEÆ.

The following is a condensed list of the contents of Fascicle III of Sydow's exsiccati, designed to contain only species of the rust fungi, or order *Uredineæ*. Fascicles I and II were issued some time ago; each fascicle contains fifty specimens. The specimens are large and well mounted, and, with the exception of the written labels, the work is altogether a very satisfactory one :

- UROMYCES TRIFOLII, (Hedw.) Wint., on *Trifolium hybridum*.  
 UROMYCES LIMONII, (DC.) Wint., *Armeria vulgaris*.  
 UROMYCES POLYGONI, (Pers.) Wint., *Polygonum ariculare*.  
 UROMYCES GERANII, (DC.) Wint., *Geranium molle*.  
 UROMYCES STRIATUS, Schræt., *Trifolium arvense*.  
 UROMYCES ANTHYLLIDIS, (Grev.) Schræt., *Anthyllis vulneraria*.  
 UROMYCES ERYTHRONII, (DC.) Wint., *Fritillaria Melcagris*.  
 UROMYCES ERYTHRONII, (DC.) Wint., *ÆCIDIUM*, *Erythronium denscanis*.  
 UROMYCES FICARLÆ, (Schum.) Lév., *Ficaria verna*.  
 UROMYCES SCILLARUM, (Grev.) Wint., *Muscaria racemosum*.  
 UROMYCES SCILLARUM, (Grev.) Wint., *Scilla maritima*.  
 PUCCINIA GALII, (Pers.) Wint., *Galium aparine*.  
 PUCCINIA CALTHÆ, Link, *Caltha palustris*.  
 PUCCINIA CIRSII-LANCEOLATI, Schræt., *Cirsium lanceolatum*.  
 PUCCINIA LAMPSANÆ, (Schultz) Fekl., *Lampsana communis*.  
 PUCCINIA CREPIDIS, Schræt., *Crepis actorum*.  
 PUCCINIA VIOLÆ, (Schum.) Wint., *Viola hirta*.  
 PUCCINIA PIMPINELLÆ, (Str.) Wint., *Pimpinella magna*.  
 PUCCINIA GRAMINIS, Pers., *Triticum repens*.  
 PUCCINIA CORONATA, Cd., *Glyceria spectabilis*.  
 PUCCINIA RUBIGO-VERA, (DC.) Wint., *Bromus mollis*.  
 PUCCINIA RUBIGO-VERA, (DC.) Wint., *Symphitum officinale*.  
 PUCCINIA POARUM, Niel., *Poa nemoralis*.  
 PUCCINIA PHALARIDIS, Plowr., *Degraphis arundinacea*.  
 PUCCINIA SUAVEOLENS, (Pers.) Wint., *Cirsium arvense*.  
 PUCCINIA HIERACHI, (Schum.) Schræt., *Carlina vulgaris*.  
 PUCCINIA BULLATA, (Pers.) Wint., *Peucedanum cervaria*.  
 PUCCINIA FALCARLÆ, (Pers.) Wint., *Falcaria Rivini*.  
 PUCCINIA FALCARLÆ, (Pers.) Wint., *ÆCIDIUM*, *Falcaria Rivini*.  
 PUCCINIA ANEMONES-VIRGINIANÆ, Schw., *Anemone silvatica*.  
 PUCCINIA TORQUATI, Pass, *Smyrni olusatrum*.  
 PHRAGMIDIUM SANGUISORBÆ, (DC.) Schræt., *Sanguisorba minor*.  
 PHRAGMIDIUM SUBCORTICIUM, (Schrk.) Wint., *Rosa canina*.  
 GYMNOSPORANGIUM CLAVARIÆFORME, (Jacq.) Wint., *ÆCIDIUM*, *Cratægus oxyacantha*.  
 MELAMPSORA HELIOSCOPILÆ (Pers.) Wint., *Euphorbia esula*.  
 MELAMPSORA VACCINII, (Alb. & Sch.) Wint., *Vaccinium vitis idæa*.  
 MELAMPSORA CIRCÆÆ, (Schum.) Wint., *Circæa lutetiana*.  
 MELAMPSORA PYROLÆ, (Gmel.) Schræt., *Pyrola uniflora*.  
 COLEOSPORIUM SENECTIONIS, (Pers.) Wint., *ÆCIDIUM*, *Pinus austriaca*.  
 COLEOSPORIUM SONCHI-ARVENSIS, (Pers.) Wint., *Sonchus arvensis*.  
 COLEOSPORIUM CAMPANULÆ, (Pers.) Wint., *Campanula patula*.  
 CHRYSOMYXA SEDI, (Alb. & Sch.) Wint., *Sedum palustre*.  
 CÆOMA EMPETRI, (Pers.) Wint., *Empetrum nigrum*.  
 CÆOMA LARICIS, (Westd.) Wint., *Laris Europæa*.  
 ÆCIDIUM AQUILEGIÆ, Pers., *Aquilegia vulgaris*.  
 ÆCIDIUM PEDICULARIS, Sibosch, *Pedicularis palustris*.  
 ÆCIDIUM CRESSÆ, DC., *Cressa cretica*.  
 ÆCIDIUM MESPILI, DC., *Mespilus Germanica*.  
 ÆCIDIUM MESPILI, DC., *Cratægus grandiflora*.  
 PUCCINIA HIERACII, (Schum.) Schroth, *Taraxacum officinale*.